Translation

PCT/EP2003/010576

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2002P17318WO	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2003/010576	International filing date (*day/month/year*) 23 September 2003 (23.09.2003)	Priority date (*day/month/year*) 22 October 2002 (22.10.2002)
International Patent Classification (IPC) or national classification and IPC H04M 9/08		
Applicant SIEMENS AKTIENGESELLSCHAFT		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. ☐ *(sent to the applicant and to the International Bureau)* a total of _____ sheets, as follows:

      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 11 November 2003 (11.11.2003)	Date of completion of this report 04 February 2005 (04.02.2005)
Name and mailing address of the IPEA/EP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2003/010576

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

☐ international search (under Rules 12.3 and 23.1(b))

☐ publication of the international application (under Rule 12.4)

☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ The international application as originally filed/furnished

☒ the description:

pages 1-5, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the claims:

pages 1-12, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the drawings:

pages 1-3, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/EP 03/10576

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	6, 7, 11, 12	YES
	Claims	1-5, 8-10	NO
Inventive step (IS)	Claims		YES
	Claims	1-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

2. Citations and explanations

A generally known method for reducing echoes is described in document US-A-6 085 072 (D1). According to this method the downlink data S2 arriving from the telecommunications system are decoded (in the decoder 6) and copied (the upper output S8 of the "output buffer" 8), and the copy is sent to an echo canceler 14. The decoded downlink data (D4) are then sent to the terminal (speaker 10). However, all the steps for reducing echoes are carried out in a terminal.

Although in document D1 the echo is reduced exclusively in the terminal, echo reduction inside a telecommunications network is also known (see document US-A-5 835 486 (D2)). In document D2 a copy is made of the downlink data ("reference signal 310" in figure 3) transmitted from the telecommunications network to the terminal, and this copy is decoded in a decoder 301 and used to reduce the echo in the uplink signal ("near-end signal" at the input of the decoder 308). In particular, a signal est(i) which is subtracted from the decoded uplink signal s(i) is generated from the downlink signal. As a result, all the features of claim 1 are known from document D2 (PCT Article 33(2)).

The feature of claim 2 is likewise known from document D2. In particular, both the downlink data copy and the uplink data (inputs of 301 and 308) are decoded and, with the aid of the blocks 302 to 305, that is to say, taking into account the decoded downlink data copy, an echo in the decoded uplink data is reduced by the subtraction s(i) - est(i).

The feature of claim 3 is directly known from document D2 (see the first sentence of the abstract). The feature of claim 4 also seems to be known from document D2, since the downlink data copy is recoded only in the decoder 301. The feature of claim 5 likewise appears to be known from document D2 because in document D2 the downlink and the uplink data are also encoded with a mobile codec format (μ-law). Claims 6 and 7 concern only routine developmental measures which are not intrinsically inventive.

The above objections apply analogously to claims 8-12, which correspond to claims 1 and 4-7.